



Kansas Diabetes Prevention and Control Program

Kansas Diabetes Quality of Care Project

*First Annual OpenHRE™ User Forum
Kansas City, MO
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Outline

- **Project Rationale**
- **Statewide Project**
- **Project Components**
- **First Year Outcomes**
- **Data Translated Into Practice**
- **Future Direction**



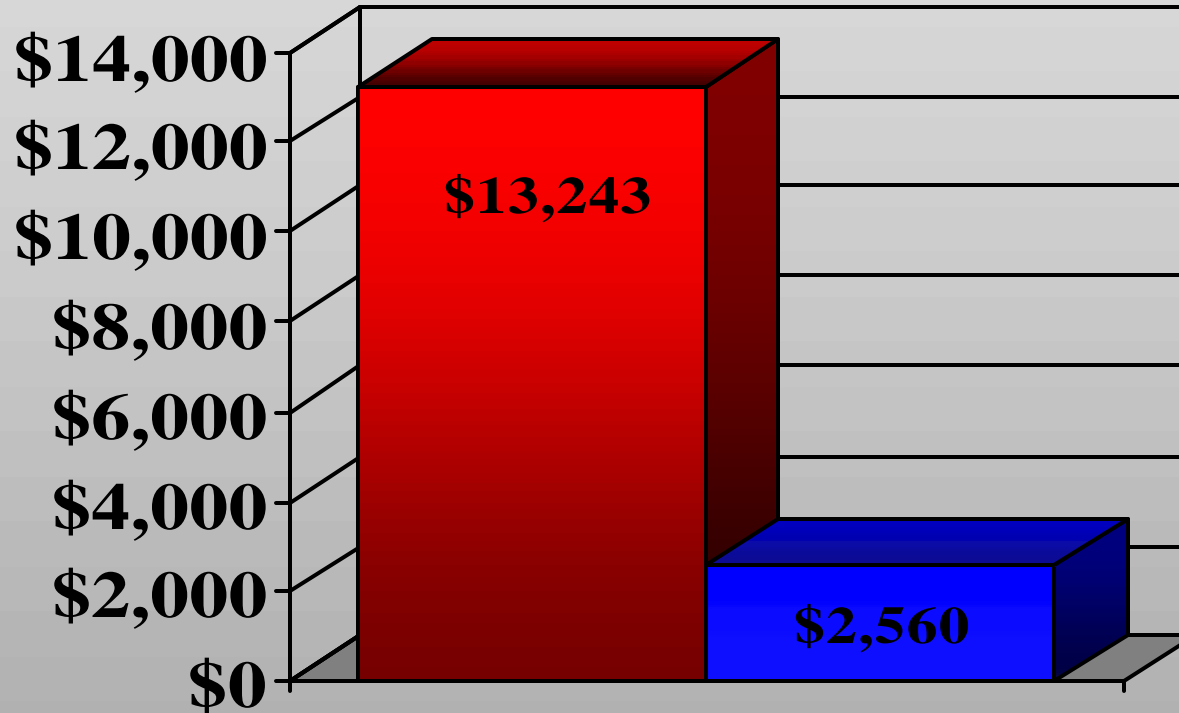
Project Rationale
Data – Decision Support



Burden of Diabetes in Kansas

- **2005 – 7.0%** Adult Kansans diagnosed with diabetes
- **7th** Leading cause of death (**683 Kansans died of diabetes in 2004**)
- Estimated direct and indirect costs of diabetes were nearly **\$1.3 billion a year**

Average Yearly Health Care Cost **United States 2002**



■ Person With Diabetes
■ Person Without Diabetes

Costs Associated with Poorly Controlled Versus Well Controlled Diabetes

<i>A1c Level</i>	<i>Adult with Diabetes</i>	<i>Adult with Diabetes, Hypertension & Heart Disease</i>
6% (normal)	\$8,576	\$38,726
7% (goal)	\$8,954	\$40,230
8%	\$9,555	\$42,467
9%	\$10,424	\$45,557
10%	\$11,629	\$49,673

Source: Gilmer, Todd P, et al. *Diabetes Care* 1997; Vol. 20, No. 12.

Average Medical Care Over 3 Year Period

Kansas Diabetes Prevention & Control Program Objectives

By 2008, increase the rate of:

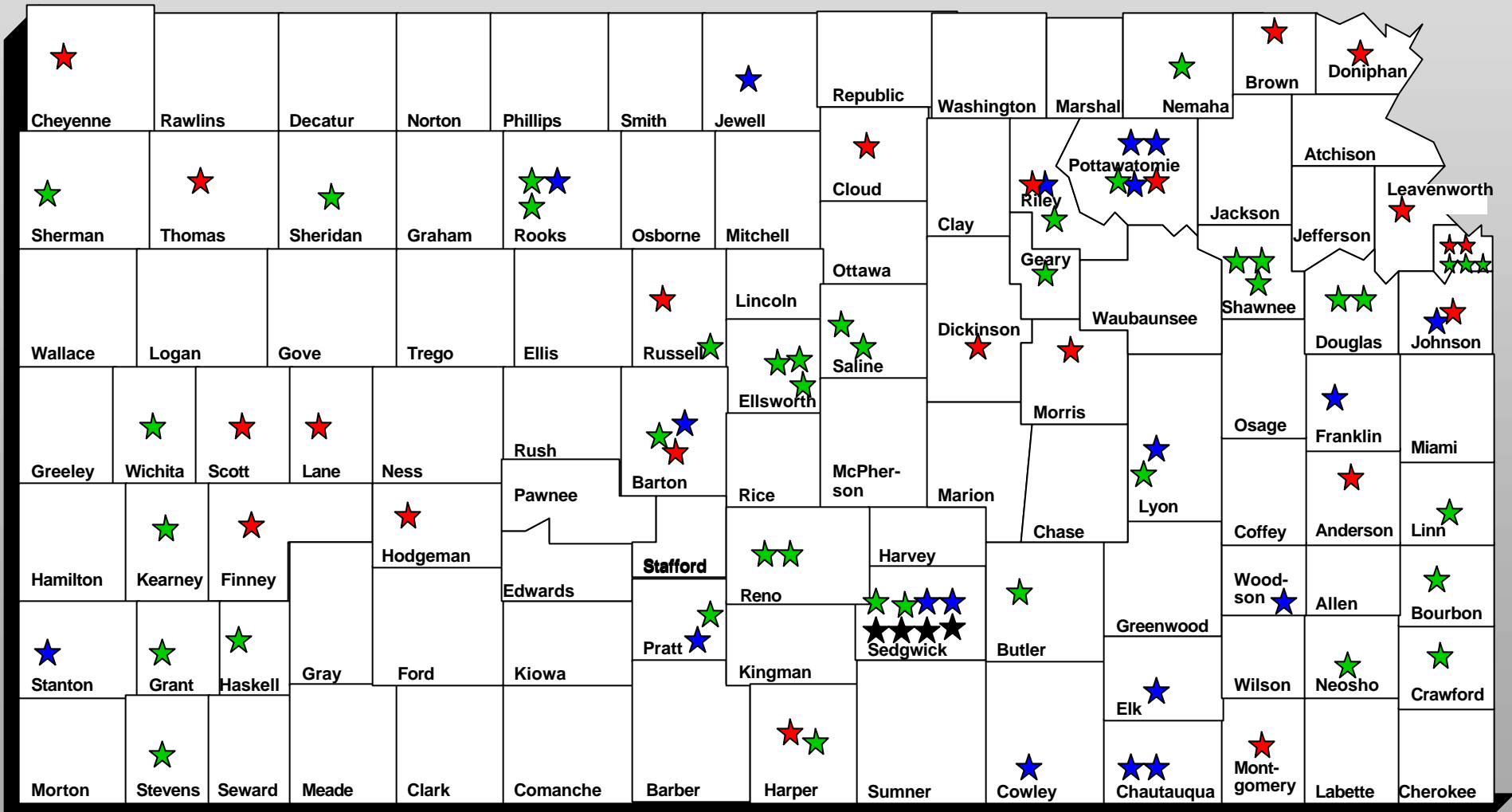
HbA1c test	69.1 % to 83.0 %
Annual foot exam	60.8% to 83.0%
Dilated eye exam	67.5% to 83.0%
Recommended annual pneumococcal immunization	49.3% to 51.6%
Recommended annual influenza immunization	60.7% to 63.5%



Statewide Project



Kansas Diabetes Quality of Care Project Sites





Project Organization Demographics

- **68 funded organizations**
- **90 sites statewide**
- **350 participating health professionals**
- **50% of Kansas' counties represented**
- **Diverse organizations participating**
- **Over 4,000 patients with Diabetes**



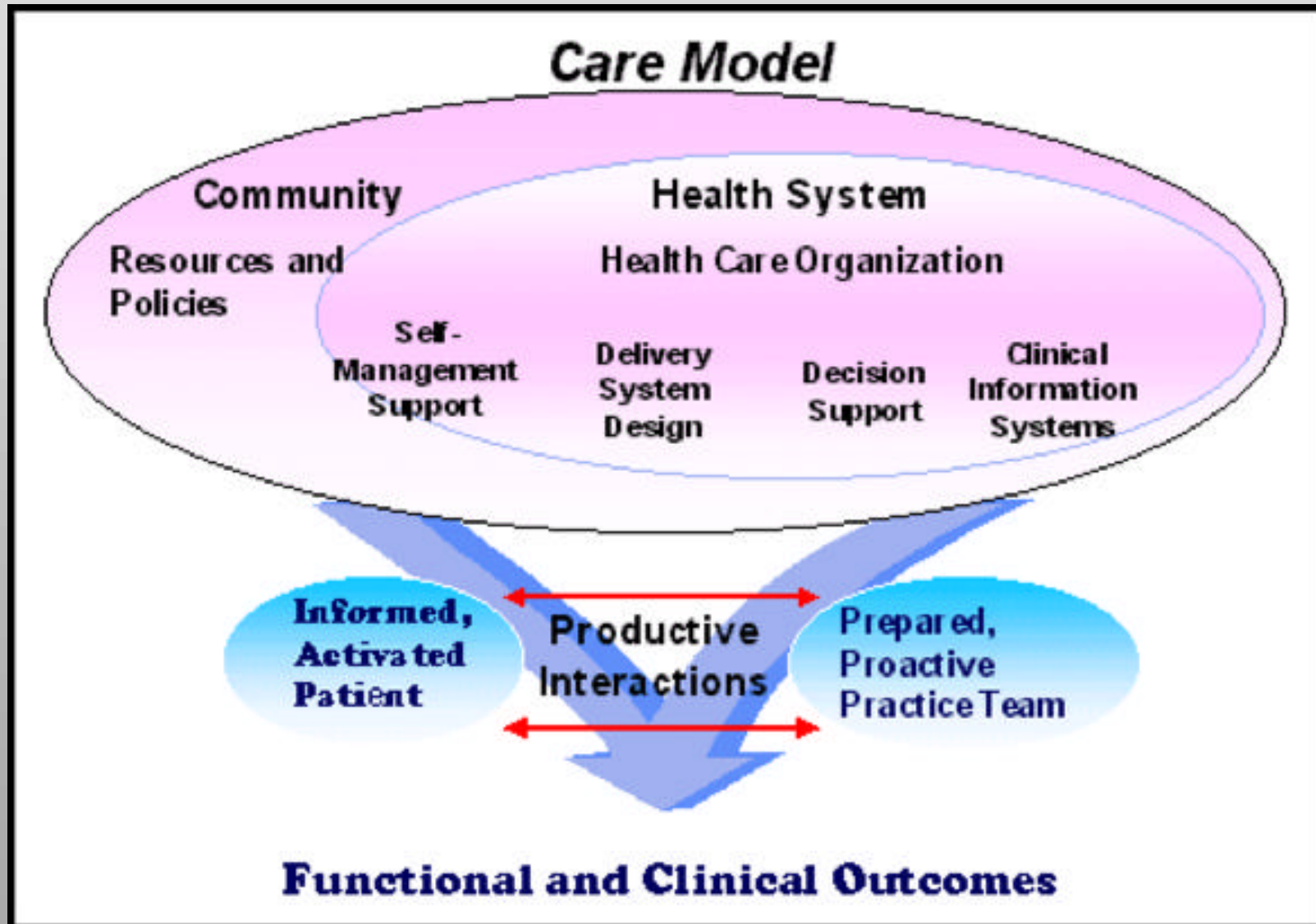
Project Organization

Demographics – cont'd

Types of participating organizations:

- Local Health Departments**
- Community Health Clinics**
- Safety Net Clinics**
- American Indian Health Clinic**
- Home Health Agencies**
- Hospital Affiliated Practices**
- Private Practices**
- Farmworker Program**
- Promotora Program**

The Chronic Care Model



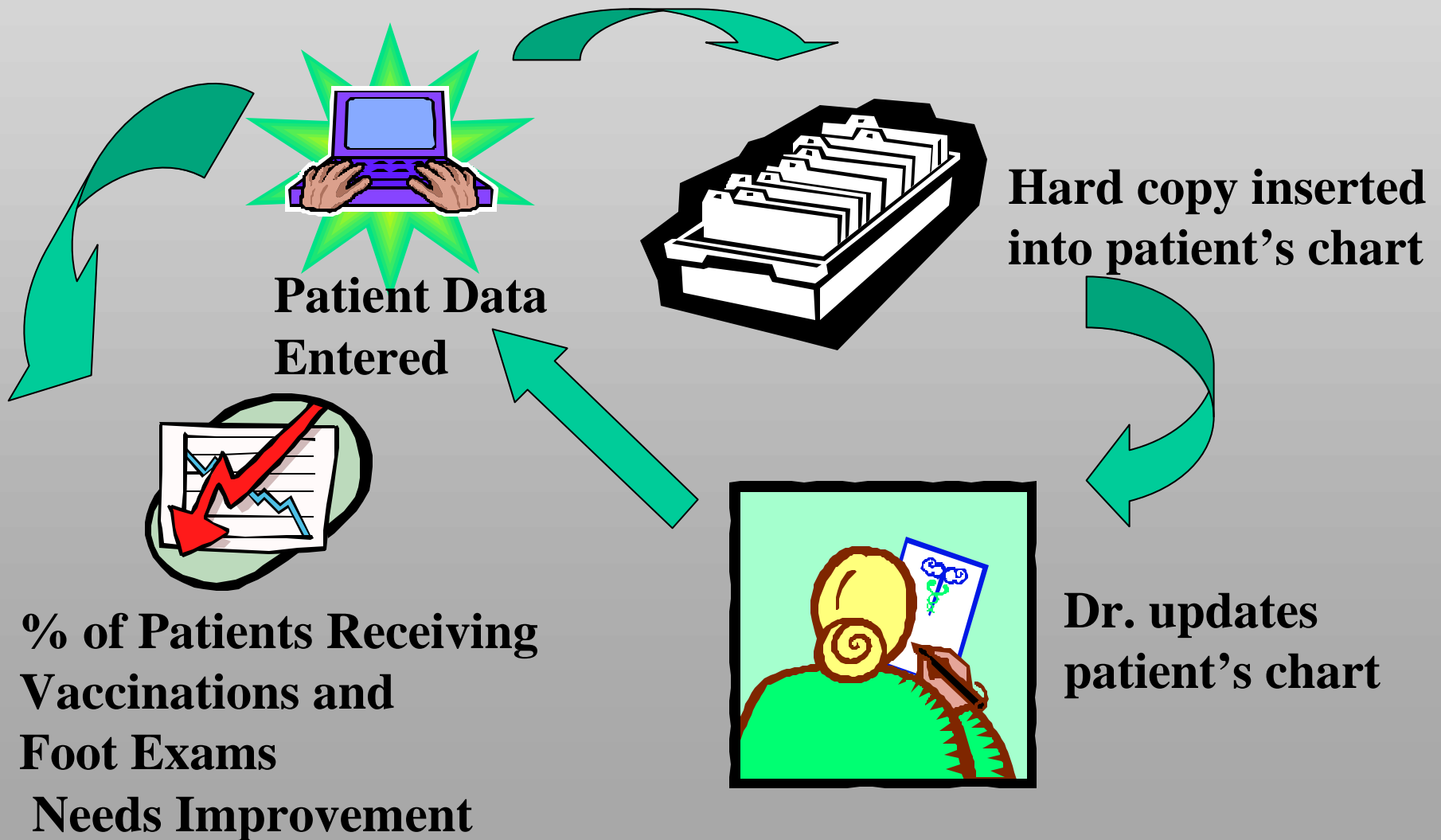


Chronic Care Model Components

- **Health Care Organization**
- **Delivery System Design**
- **Decision Support**
- **Self-Management Support**
- **Community Resources**
- **Clinical Information System**

CDEMS

How does it work?



First Year Outcomes

<i>Health Care Organization</i>			
Outcomes	1st quarter	4th quarter	% change
Quantifiable goals for quality of care provided to Patients	45%	66%	46%
Holding routine diabetes team meetings	42%	60%	42%

Organizations Checking Yes on the Quarterly Office Self-Assessment Form

First Year Outcomes Cont'd....

Delivery System Design

Outcomes	1st quarter	4th quarter	% change
Routinely ask patients to remove socks and shoes before exam	39%	69%	76%
Non-physician staff allowed to do foot exam	36%	39%	8%
All patients scheduled for follow-up	60%	60%	-
Non-physician staff empowered to order overdue labs	36%	54%	50%
Non-physician staff empowered to administer flu and pneumonia vaccinations	48%	57%	18%

Organizations Checking Yes on the Quarterly Office Self-Assessment Form

First Year Outcomes Cont'd....

Decision Support

Outcomes	1st quarter	4 th quarter	% change
CDEMS used to make decisions about needed care for patients	36%	54%	50%

Self-management Support

Outcomes	1st quarter	4 th quarter	% change
Patients routinely know their targets for blood pressure, finger stick blood sugar, and HbA1	18%	54%	200%
Provide resources for patients to allow them to be full partners in their care	42%	69%	64%

Organizations Checking Yes on the Quarterly Office Self-Assessment Form

First Year Outcomes Cont'd....

Community Resources

Outcomes	1st quarter	4 th quarter	% change
Develop partnerships in the community for referral	39%	51%	30%

Clinical Information Systems

Outcomes	1st quarter	4 th quarter	% change
Use CDEMS to record patients with eye exams, foot exams, HbA1c, flu and pneumonia vaccinations	45%	75%	66%
Use CDEMS as a reminder system to prompt when a patient is due for labs or visit	27%	42%	55%

Organizations Checking Yes on the Quarterly Office Self-Assessment Form



CDEMS Aggregate Data

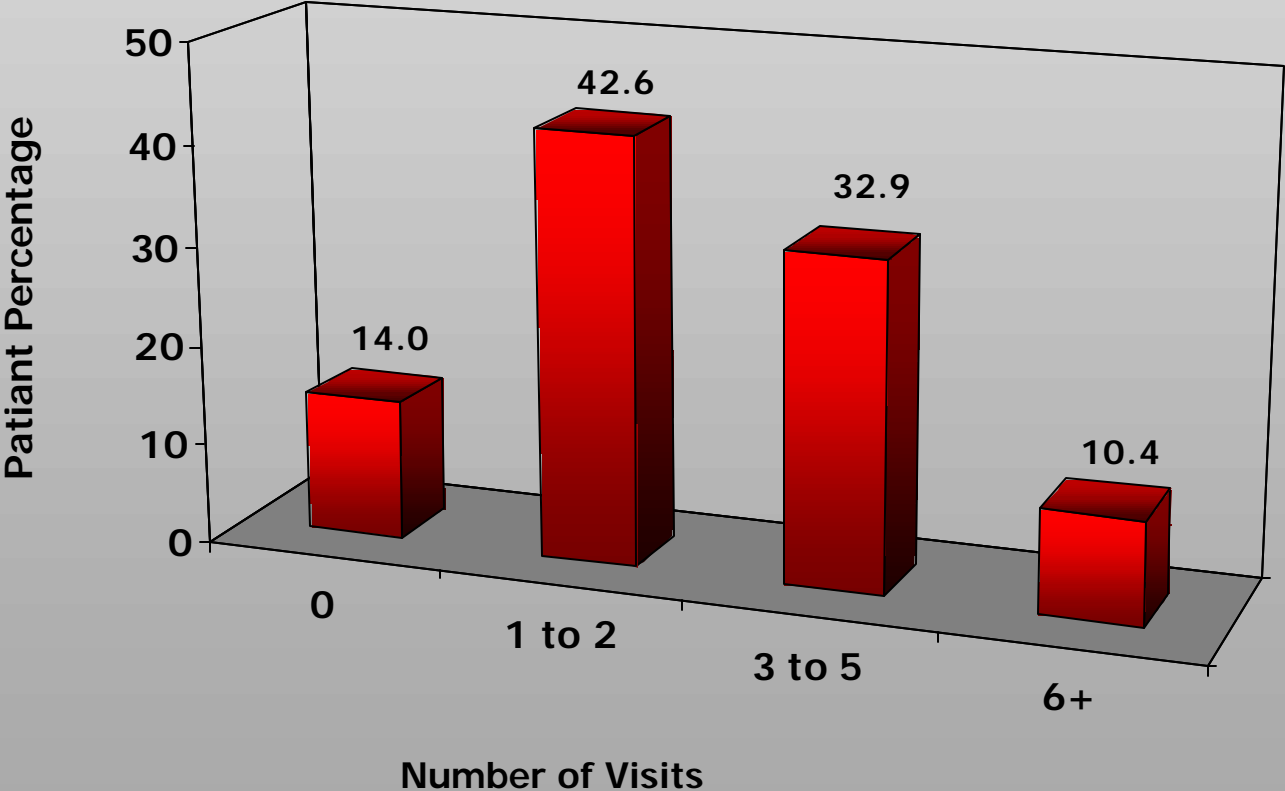
1st Year Results (Jan 2005-Dec 2005)

Methodology

- **35 organizations funded in the first year (Green Team January 2005-December 2005)**
- **14 organizations funded in the first year (Red Team September 2005-September 2006)**
- **Each organization sends yearly aggregate CDEMS reports**
- **CDEMS (access database) reports are converted to Excel**
- **Reports loaded into KDHE Excel database**
- **Non-CDEMS format reports excluded from the analysis**
- **Organizations failing to send reports excluded**
- **Final analysis included reports from 22 clinics (Green Team) and 13 clinics (Red Team)**

Patient Office Visits

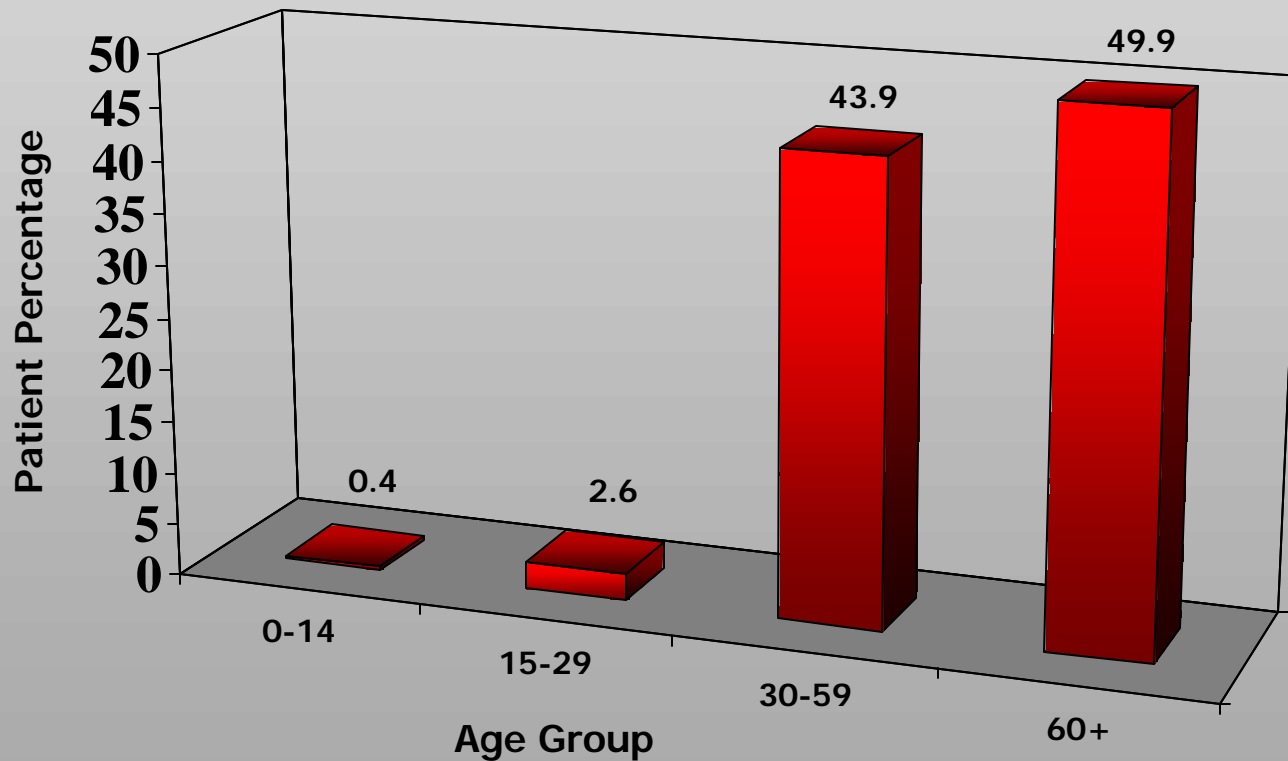
Percentage of Patients by Number of Visits



1st Year Results 2005-2006 - CDEMS Data, Office of Health Promotion (KDHE)

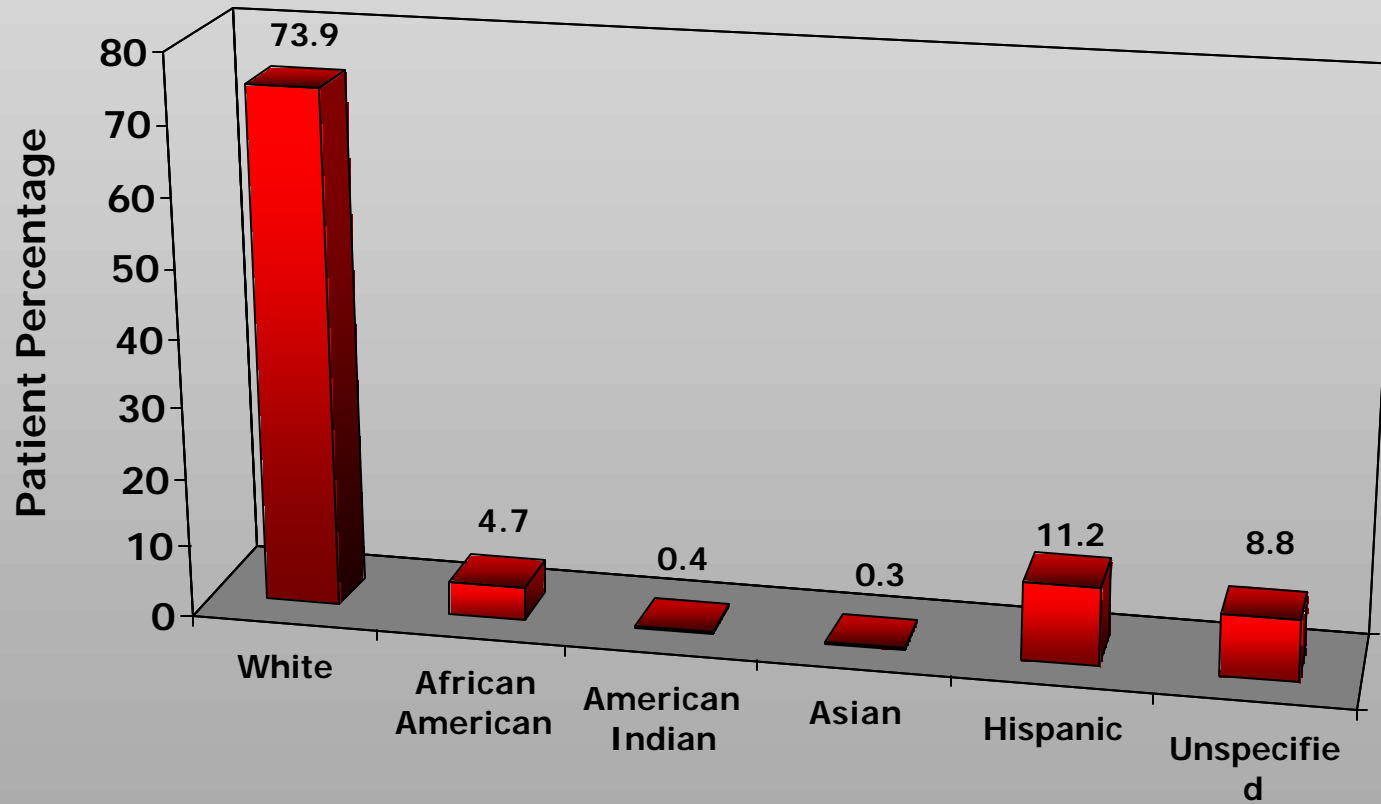
Age Demographics

Percentage of Patients by Age Group



Ethnicity

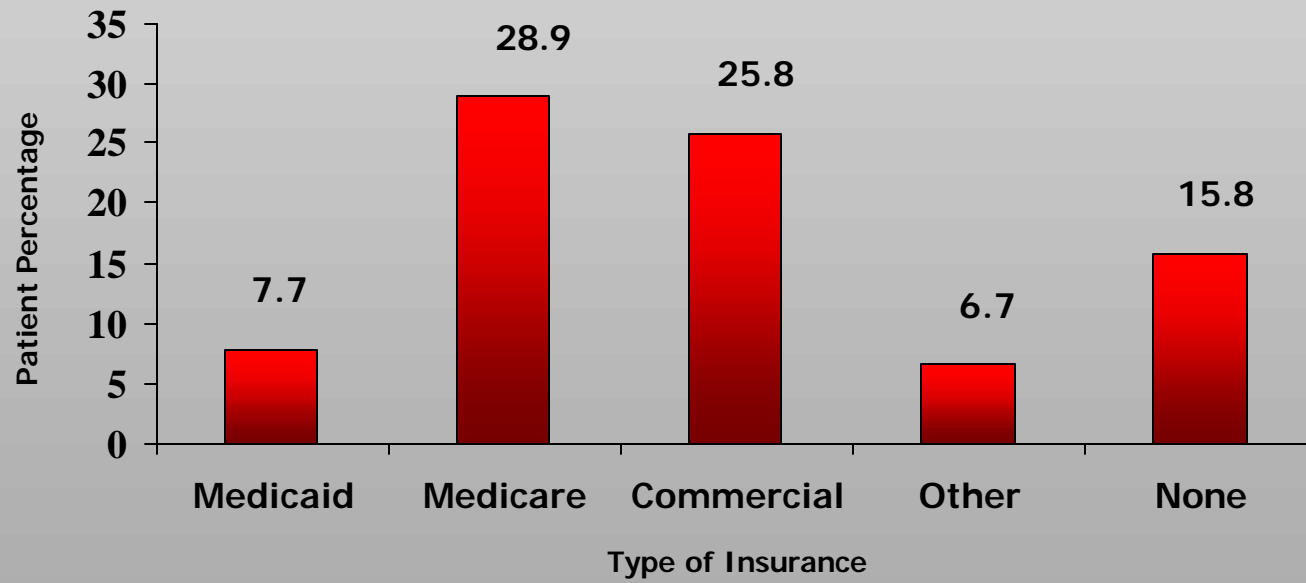
Percentage of Patients by Ethnicity



1st Year Results 2005-2006 - CDEMS Data, Office of Health Promotion (KDHE)

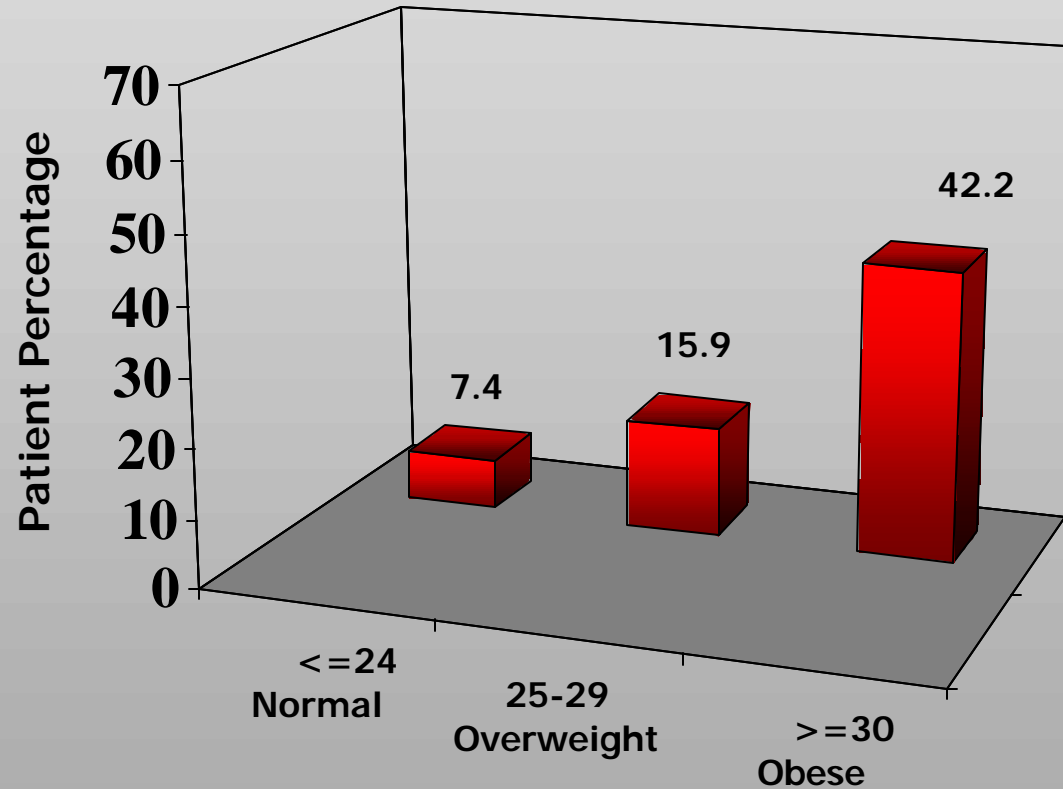
Insurance

Percentage of Patients by Insurance Type



Body Mass Index

Percentage of Patients by Body Mass Index



Body Mass Index Range

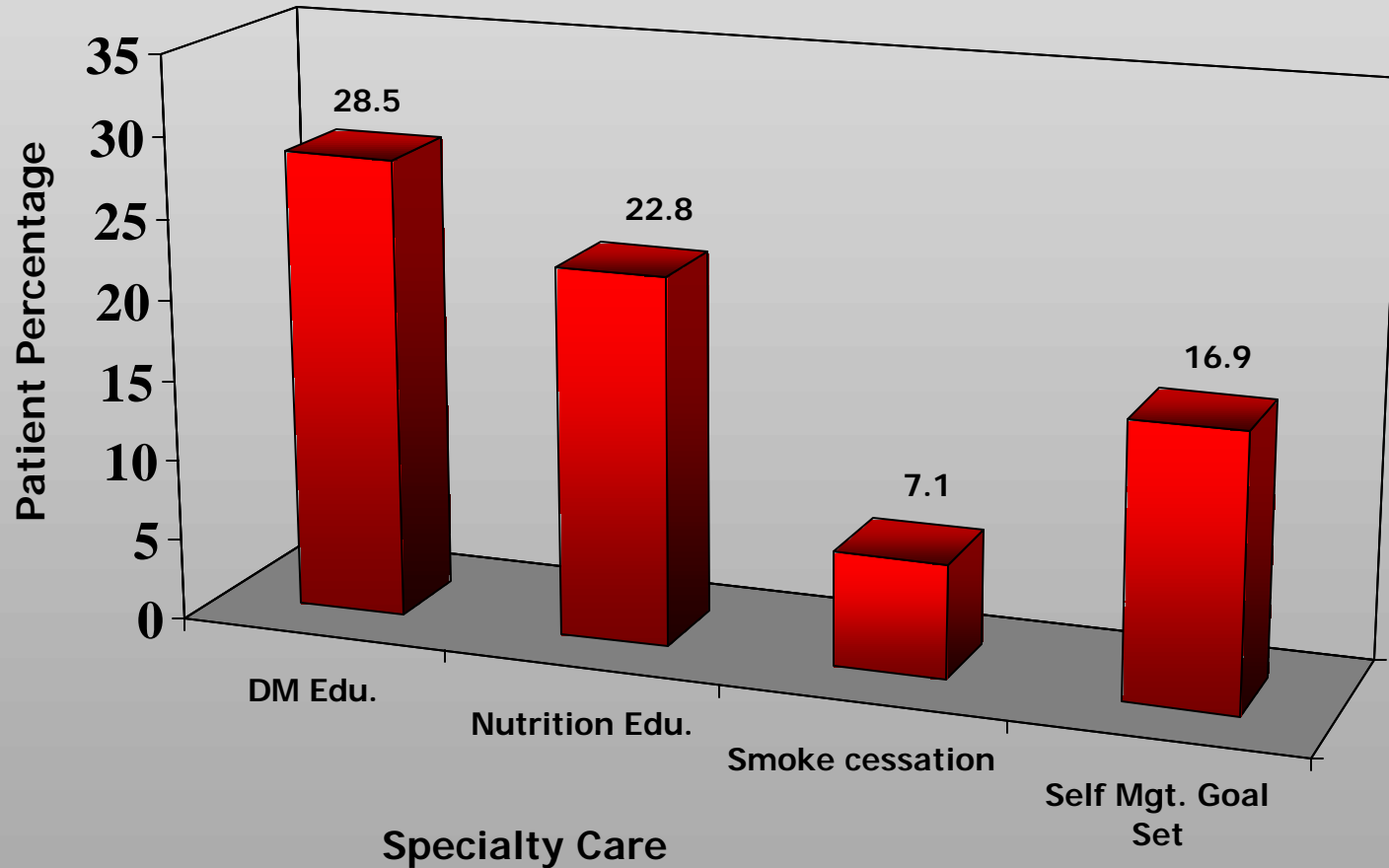
Body Mass Index is defined as weight in kilograms divided by height in meters squared (kg/m^2)

Comorbidity/Complication Profile of Patients

Comorbidity/Complication	Percentage (%)
Hypertension	56.5
Hyperlipidemia	56.3
Heart Disease/Coronary Artery Disease	12.5
Neuropathy	9.6
Nephropathy	4.6
Peripheral Vascular Disease	3.9
Cerebrovascular Disease (stroke)	3.7
Retinopathy	3.5

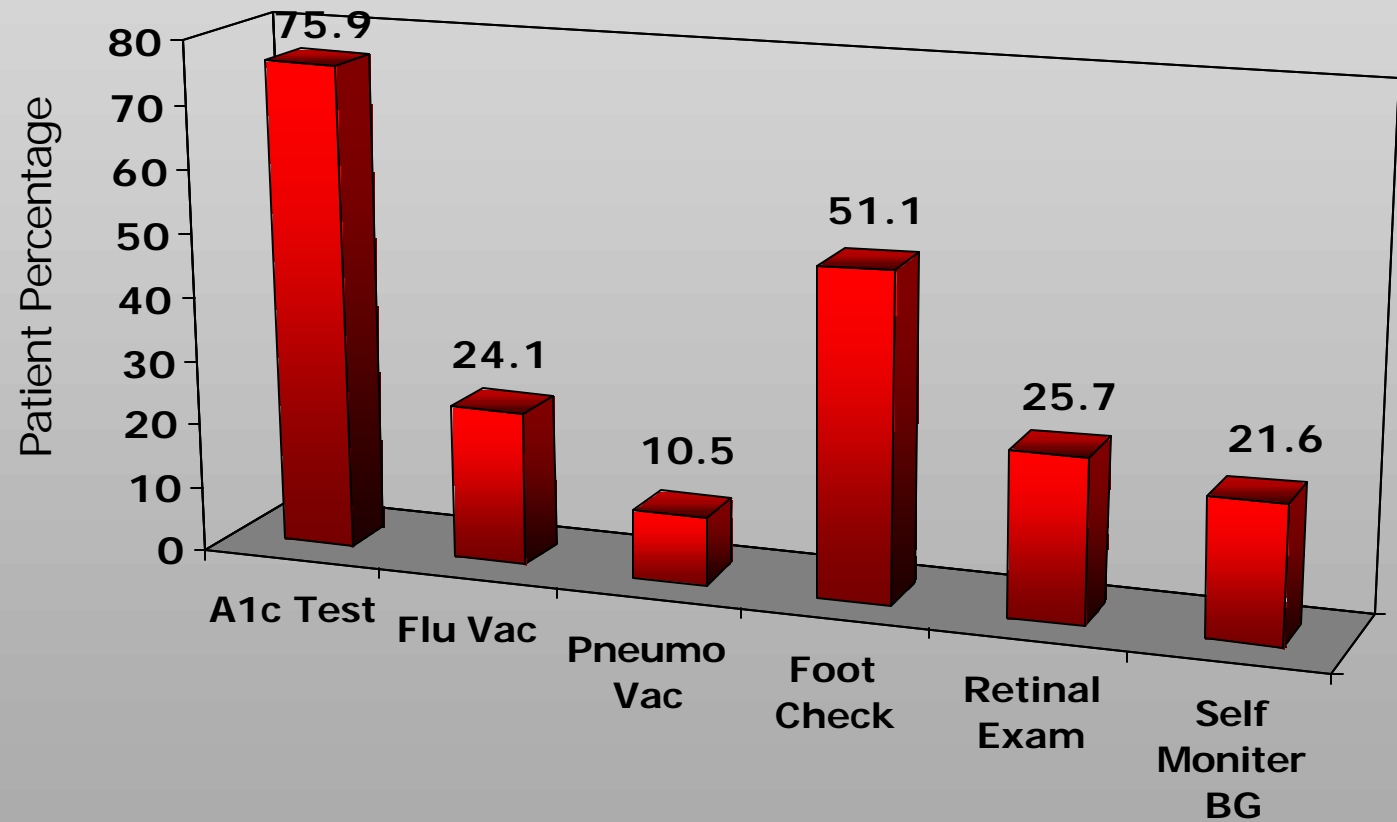
Specialty Care Received

Percentage of Patients Who Received Specialty Care

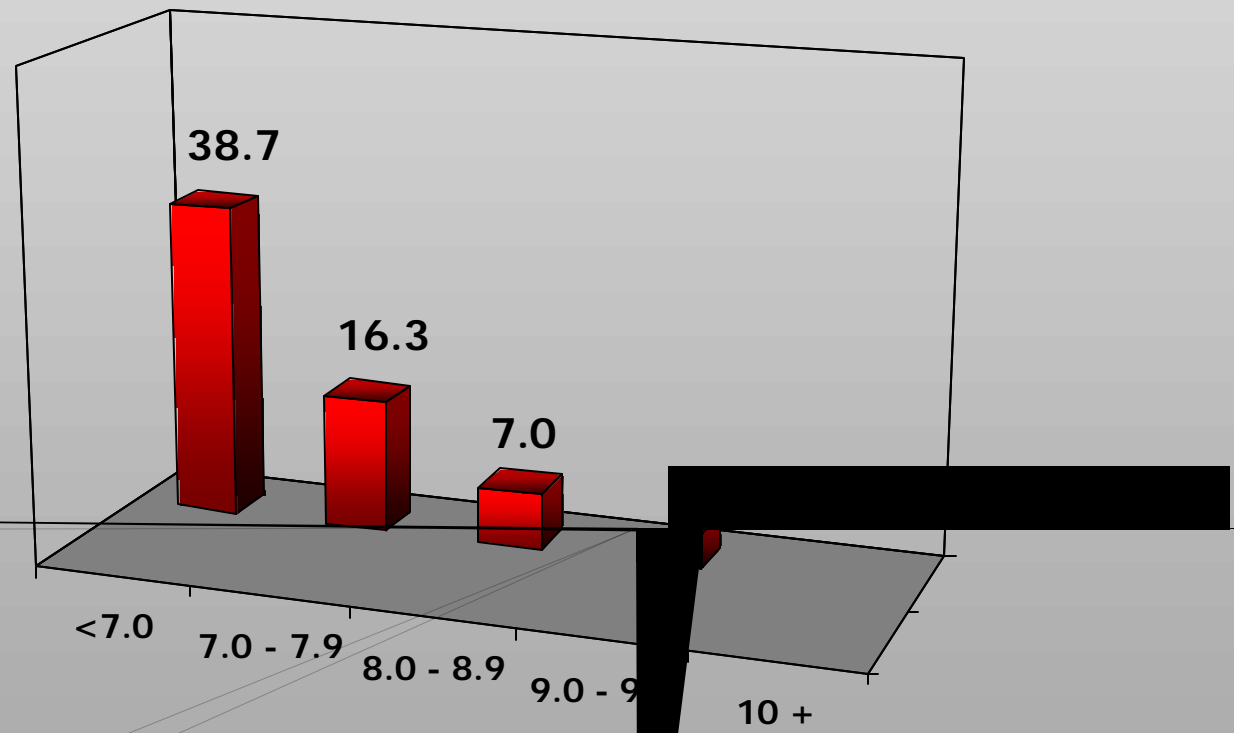


Preventive Care Practices

Percentage of Patients by Preventive Care Practices



HbA1c Levels





Data Translated Into Practice

- at the clinic level

- **New office protocols in all organizations**
- **Diabetes patient newsletters**
- **Patient certificates for improved A1c**
- **Pre-visit patient self-assessment programs**
- **CDEMS data used to guide team decisions**
- **Improved communication among providers**
- **Separate diabetes clinic days established**
- **Patients made full partners in care**



Data Translated Into Practice

- at the community level

- **Pre-Diabetes Screening Programs**
 - Community health fairs
 - Churches
 - Cattle and hog processing plants
- **New Community Partnerships**
 - YMCA
 - Podiatrists
 - Optometrists
 - Dentists
- **Community Diabetes Education Programs**
 - Targeting seniors
 - Targeting overweight/obese



Future Direction

- **Continue to add organizations**
- **Explore interfacing CDEMS with EHRs**
- **Open Health Records Exchange Pilot**
- **Collaborate with other chronic disease programs**
- **Explore collecting primary prevention data**



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